



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Robert L. Canella

Serial No.: 09/934,175

Filed: August 21, 2001

For: DEVICE FOR ESTABLISHING NON-
PERMANENT ELECTRICAL
CONNECTION BETWEEN AN
INTEGRATED CIRCUIT DEVICE LEAD
ELEMENT AND A SUBSTRATE (as
amended)

Confirmation No.: 7405

Examiner: J. Dolan

Group Art Unit: 2813

Attorney Docket No.: 2269-4323US
(MUEI-0543.00/US)

NOTICE OF EXPRESS MAILING

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COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Examiner indicates in Office Action dated May 11, 2005:

Regarding claim 10, given the configuration of the substrate in Haseyama-1, it would not be obvious to limit the extent of the retaining portion such that it does not extend all of the way through the substrate, as this would prevent connection to the test board. In the context of the instantly claimed invention, this feature is not considered obvious over the prior art of record.

Regarding claim 15, while Haseyama-2 discloses item 25 in Fig. 5B, shown to be a volume of conductive filler material disposed in and filling at least a portion of a longitudinal extent of the aperture 21 and contacting the base portion of the spring contact, the base portion does not extend into the conductive filler.

Claims 16-18 depend from claim 15 and contain all of the limitations of claim 15.

The Examiner indicates in Notice of Allowance dated November 1, 2005:

The primary reason for allowance is the specific geometry defined in the claims for the spring contact and aperture, wherein the spring contact includes a generally uncoiled serpentine base portion and an adjacent resiliently compressible coil spring contact portion, and wherein the aperture includes a seat portion sized and configured to at least partially contain the contact portion of the spring and a retaining portion connected to the seat portion and receiving the base portion of the spring.

Many of the claimed elements are taught in the prior art, but there is no reasonable teaching or motivation provided for combining prior art elements to arrive at the claimed spring and aperture geometries. For example, US 6,229,320 to Haseyama et al. discloses three distinct substrates (36, 31, 32) having a spring with an upper coil (see figure 21b) that can be received in a seat portion (see figure 11 or figure 13b) in the upper surface on the top substrate, and a lower coil portion that can be formed as an uncoiled serpentine portion received in an aperture in the bottom substrate (see figure 24b). Even if it were considered a trivial matter to modify the structure of Haseyama such that the three substrates are formed as a one-piece substrate, it would not be possible to arrive at the claimed geometry for the aperture, since Haseyama specifically teaches that the spring portions are embedded in resilient layer 31, and hence, teaches away from connecting the aperture in the top substrate with the aperture in the bottom substrate.

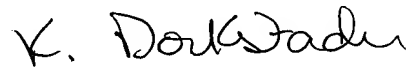
Other prior art references (see US 6,341,962 to Sinclair or US 6,390,826 to Affolter et al.) teach apertures having substantially the claimed structure, but the spring portion is provided through the entirety of the aperture as a compressible coil spring. There is no motivation provided in the prior art to modify the spring structure such that only the portion contacting the IC lead element is coiled, and the remainder of the spring contact is of an uncoiled serpentine structure.

Since the prior art does not fairly suggest or teach the claimed combination of elements, and since the claimed combination of elements provides advantages in reduced electrical path, reduced inductance, greater reliability of contacting with the IC, and a simplified construction, it is the Examiner's opinion that the invention as claimed would not have been apparent to a person having ordinary skill in the art.

Applicants respectfully disagree with the reasons regarding claim 15, that Haseyama-2 (US-2002/0060579) discloses item 25 in Fig. 5B to be a volume of conductive filler material disposed in and filling at least a portion of a longitudinal extent of the aperture 21. Haseyama-2 describes item 25 as land patterns formed on one side of the substrate 24 to correspond with the holes 21. (paragraph [0037]). No portions of the land patterns 25 are disposed in the holes 21 of the guide plate 20, and therefore do not fill a portion of a longitudinal extent of the aperture 21. (see Fig. 5B) Applicants concur that the coil shaped spring 12 of Haseyama-2 does not extend into the land patterns 25.

Applicants concur with the other reasons as stated by the Examiner insofar as they comprise a summary, and are exemplary and not limiting. However, independent claim 9 as allowed includes other and different language than that specified by the Examiner, and the allowed dependent claims include other and further features and elements. Accordingly, the scope of the claims must be determined from the literal language of each as a whole, as well as equivalents thereof.

Respectfully submitted,



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